

a set of guard blades radially arranged inside said main frame and fixed onto an inner surface of said main frame by one ends thereof;

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wherein said guard blades are arranged downstream of rotor blades of said rotor device, and have a shape substantially identical to that of said rotor blades, and an arrangement relative to said rotor blades allowing any one of said guard blades and any one of said rotor blades to constitute [a near letter] an approximate C configuration in a cross-sectional view at a moment that a leading point of said guard blade aligned with a trailing point of said rotor blade in an axial direction, and wherein curves of said downstream guard blades guide an overall air outflow from said rotor device to penetrate therethrough and be outputted in said axial direction, thereby transforming [so as to transform] a tangential velocity of [an] said air outflow from said rotor device into a static pressure to supercharge said fan.

REMARKS

The office action has been carefully reviewed and claim 13 has again been amended to emphasize differences between the fan guard as claimed and the prior art. (A copy of all pending claims 13 and 16-19, without brackets and underlining and rewritten as claims 1-5, is enclosed herewith as an attachment.)

Claim 13 as presently amended is supported by the descriptions from line 9 of page 6 to line 5 of page 7 of the specification. It is an object of the present invention to supercharge the fan, i.e., to increase the blast pressure of the air outflow (Fo), so it is inherently indicated that the airflow outputted from the fan is principally in the axial direction.

With regard to the rejection of the pending claims 13 and 16-19 under 35 U.S.C. §112, second paragraph, as being indefinite because the recitation of "a near letter C configuration" is based on subjective word and is not based on a comparative basis.

While the basis of this rejection is not really understood, applicant has amended the claim to read "an approximate C configuration" which is believed to be more "comparative" and should overcome this rejection.

The Examiner has also rejected claims 13 and 17-19 under 35 U.S.C. §102(b) as being anticipated by Tsubakida et al. (US 6,024,536). With regard to claim 13, Tsubakida et al. does not anticipate, teach or suggest that curves of the downstream guard blades guide an overall air outflow from the rotor device to penetrate therethrough and be outputted in the axial direction. Instead, Tsubakida et al. discharges the air outwardly in the radial direction, which is shown in the abstract and in Fig. 1. According to Tsubakida et al., an airflow direction-changing member is provided for changing the airflow direction of air discharged from the fan. Each of the fixed blades of the airflow direction-changing member has a specific shift angle and a specific attack angle, and by this constitution, discharged air from the fan is changed in its discharge direction so as to flow radially outward (Col. 2, lines 29-32 and 51-67). Figs. 11-15 show various modified embodiments of the airflow direction-changing member to enhance certain properties of the fan. The modifications are made on the basis of guiding the airflow penetrating therethrough radially outward. That is, the requirements of the shift and attack angles should still be complied with. There is nothing to show the relationship between these two techniques, especially when the goals of these two techniques are very different. While the fixed blades of Tsubakida et al are designed to guide the airflow radially outward to prevent a decrease in the quantity of airflow discharged by a fan when there are obstacles immediately behind the fan, the guard blades of the claimed invention are designed to guide the airflow axially outward so as to supercharge the fan.

It is therefore believed that claim 13 is not anticipated, taught or suggested by Tsubakida et al., and reconsideration and allowance of this claim is respectfully requested.

The Examiner has also rejected claim 16 under 35 U.S.C. §103(a) as being unpatentable over Tsubakida et al. in view of Japan Patent No. 02-026,799. Claim 16 is dependent from claim 13 so a discussion of the rejection regarding claim 13 is appropriate. With regard to claim 13, the combination of Tsubakida et al and Japan Patent No. 02-026,799 does not disclose that curves of the downstream guard blades guide an overall air outflow from the rotor device to penetrate therethrough and be outputted in the axial direction. Further, the purpose of transforming a tangential velocity of the air outflow from said rotor device into a static pressure to supercharge the fan cannot be read from the two cited references. For Japan Patent No. 02-026,799, the blade arrangement is an approximate S configuration so that the airflow passes smoothly, through both of the upstream rotor blade and the downstream stator blade as shown in Fig. 6 of Japan Patent No. 02-026,799. In other words, there is no special effect on changing the tangential velocity to supercharge the fan under such arrangement and configuration.

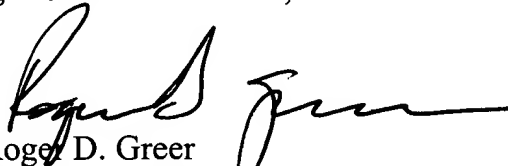
According to the present invention, the heat-dissipation efficiency is enhanced by the supercharging function of the guard blades. The above characteristic arrangement achieves the purpose of supercharging the fan. On the contrary, the cooling function according to Tsubakida et al is effected by increasing the covering rate. Therefore, the airflow is desired to be outputted from the guard blades in the radial direction because it is designed to be used in a compact space such as an engine room. These two inventions start from different ideas and result in different performances so that claim 13 is not obvious over Tsubakida et al in view of Japan Patent No. 02-026,799. Because claim 16 necessarily includes the features of claim 13 and additionally defines other features, it is believed that claim 16 is in condition for allowance and such action is respectfully requested.

With regard to claim 17-19, they also necessarily include the features of the claims from which they depend and additionally define other features. It is similarly believed that they are in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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